



BASIC WORKSHOP
FUTURE INTERNATIONAL CLIMATE POLICY
Sao Paulo, 7-9 August 2006



Background Paper 1
History and status of the international climate change
negotiations on a future climate agreement

Niklas Höhne¹, Gylvan Meira Filho², Jacques Marcovitch², Farhana Yamin³, Sara Moltmann¹

¹Ecofys, Germany

²Institute for Advanced Studies, University of Sao Paolo

³Institute of Development Studies, University of Sussex

Revised Version March 2007



This paper has been prepared as part of the BASIC Project with funding from the Environment Directorate General of the European Commission. Additional funding for BASIC has also been kindly provided by the UK, Department for Environment, Food and Rural Affairs. The views and opinions expressed in this paper are entirely those of the authors and not those of the funders or the BASIC Project Team as a whole. This paper, and others from the BASIC Project, can be downloaded from the BASIC Project website at <http://www.basic-project.net/>

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1 INTRODUCTION

The objective of the United Nations Framework Convention on Climate Change (UNFCCC) is to stabilise greenhouse gas concentrations to avoid dangerous anthropogenic interference with the climate system. Several countries, including the European Union, have agreed that global average temperature increase should be limited to 2°C above pre-industrial levels to avoid such dangerous interference. Stabilizing atmospheric concentrations of greenhouse gases at 450 ppmv CO₂ equivalents would have about a 50% probability of reaching this target (Meinshausen 2005). Achievement of this target has been confirmed as both worthwhile and feasible by a number of think tanks and environmental NGOs (e.g. WBGU, 2007).

Under the UNFCCC and its Kyoto Protocol the participating countries already agreed on different commitments and emission reduction targets. For the future, more substantial reductions of greenhouse gases (GHGs) are necessary to avoid dangerous impacts.

This paper gives an overview of the history of the negotiation process under the climate change regime and the resulting commitments under the UNFCCC and the Kyoto Protocol. It also summarises current activities relating to the negotiation of additional commitments and whether such commitments should be agreed within or outside of the UNFCCC. The paper summarises negotiating positions of important countries or groups on the timing, scope and nature of such commitments. Finally, it sets out how the past positions of BASIC countries might inform discussions on the elements set out in accompanying Sao Paulo Proposal for Future International Climate Agreement.

2 CURRENT COMMITMENTS UNDER THE UNFCCC AND THE KYOTO PROTOCOL

This section provides an overview of the current commitments of countries under the UNFCCC regime. It is based on Depledge (2000), Oberthür and Ott (1999), Yamin and Depledge (2004) and Höhne (2006).

The UNFCCC has the ultimate objective of stabilizing greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system (see Box 1).

To reach this goal, the UNFCCC builds upon the principle of common but differentiated responsibilities and capabilities of Parties. Accordingly, countries are divided into three groups for the purpose of differentiating the obligations or commitments under the Convention and its Kyoto Protocol (see also Table 1 and Figure 1):

“The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.”

Box 1. Article 2 of the UNFCCC

- *Parties included in Annex II to the Convention* encompass the countries that were members of the Organization for Economic Co-operation and Development (OECD) in 1992.
- *Parties included in Annex I to the Convention (Annex I Parties)* encompass both the countries that were members of the Organization for Economic Co-operation and Development

opment (OECD) in 1992 and countries with "economies in transition" (EITs), that are the Russian Federation and several other Central and Eastern European countries.

- *Parties not included in Annex I to the Convention (non-Annex I Parties)* encompass those countries that are not listed in Annex I, including all newly industrialized countries and developing countries.

Table 1. Members of Annex I and their commitment under the Kyoto Protocol (Annex B)

Country	Member of Annex I	Member of Annex II	Economy in transition	Commitment inscribed in Annex B (within parenthesis the outcome of the EU burden sharing agreement)
Australia	X	X		108
Austria	X	X		92 (87)
Belarus	X		X	92****
Belgium	X	X		92 (92.5)
Bulgaria	X		X	92
Canada	X	X		94
Croatia	X*		X	95
Czech Republic	X*		X	92
Denmark	X	X		92 (79)
Estonia	X		X	92
European Community	X	X		92
Finland	X	X		92 (100)
France	X	X		92 (100)
Germany	X	X		92 (79)
Greece	X	X		92 (125)
Hungary	X		X	94
Iceland	X	X		110
Ireland	X	X		92 (113)
Italy	X	X		92 (93.5)
Japan	X	X		94
Kazakhstan	X**		X	To be negotiated
Latvia	X		X	92
Liechtenstein	X*			92
Lithuania	X		X	92
Luxembourg	X	X		92 (72)
Monaco	X*			92
Netherlands	X	X		92 (94)
New Zealand	X	X		100
Norway	X	X		101
Poland	X		X	94
Portugal	X	X		92 (127)
Romania	X		X	92
Russian Federation	X		X	100
Slovakia	X*		X	92
Slovenia	X*		X	92
Spain	X	X		92 (115)
Sweden	X	X		92 (104)
Switzerland	X	X		92
Turkey	X	***		****
Ukraine	X		X	100
United Kingdom	X	X		92 (87.5)
United States of America	X	X		93

* Added to Annex I at the third Conference of the Parties in Kyoto 1997 (COP 3)

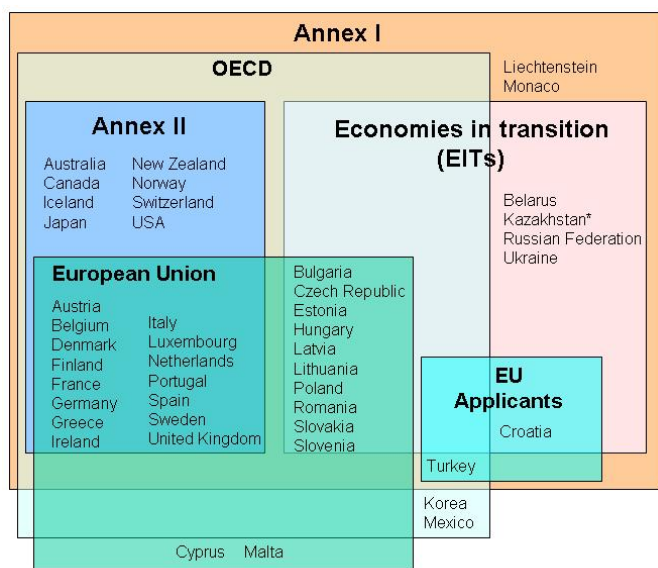
** Added at COP7 only for the purpose of the Kyoto Protocol (see FCCC/CP/2001/13/Add.4, section V.C)

*** Deleted from Annex II by decision 26/CP.7

**** Added through amendment to Annex B adopted by COP/MOP 2, Decision 10/CMP.2

Under the Convention, *all* Parties have certain general commitments (Article 4.1, UNFCCC):

- To prepare national inventories of greenhouse gas emissions
- To implement measures to mitigate climate change
- To promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that reduce greenhouse gas emissions
- To preserve sinks and reservoirs of greenhouse gases
- To cooperate in preparing for adaptation to the impacts of climate change
- To promote and cooperate in research on climate change
- To exchange information related to climate change
- To promote and cooperate in education, training and public awareness related to climate change
- To report information related to the above in “national communications”



*: Added to Annex I only for the purpose of the Kyoto Protocol at COP7

Figure 1. Country groups

In addition to these general commitments, some groups of countries have additional obligations or rights under the UNFCCC:

- Annex I Parties are to take the lead in modifying longer-term trends in emissions by adopting national policies and measures with the (not legally binding) aim of returning their greenhouse gas emissions individually or jointly to 1990 levels by the year 2000 (Article 4.2, UNFCCC).
- The Parties included in Annex II have the further commitment to provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations (Article 4.3, 4.4, 4.5, UNFCCC).

- Economies in transition (EITs) are allowed a certain degree of flexibility in implementing their commitments (Article 4.6, UNFCCC), for example, several of those countries have chosen a base year other than 1990.
- Developing country Parties (a term which the COP has historically been unable to define so that it now simply means any Party not included in Annex I) are eligible for funding for the implementation of their general commitments (Article 11, UNFCCC). The extent of their implementation must take into account both the availability of funding from Annex II Parties and that development and poverty reduction are the overriding priorities of developing countries. The requirements of the regular reports ("national communications") for developing countries is also conditional on receipt of full funding and their content and frequency is less than required for those of Annex I Parties. The guidelines for the preparation of national communications for non-Annex I Parties, for example, do not speak of 'policies and measures' but of 'steps taken or envisaged to implement the Convention'.

The Kyoto Protocol, adopted in 1997, adds new commitments for Annex I Parties and confirms the general commitments from the Convention for non-Annex I Parties without modifying them in any significant respect.

With the Kyoto Protocol, Annex I Parties agreed to reduce aggregated emissions of carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆) together by at least 5% in the period 2008 to 2012 relative to 1990 levels. Individual Annex I Parties have the limitation or reduction targets listed in Table 1. Australia, Turkey and the United States have not ratified the Kyoto Protocol so their targets are not binding and the reduction of Annex I emissions will be less than 5%.

To help meet their commitments, Annex I Parties can trade emission allowances with other countries or implement emission reduction projects in other Annex I countries (Joint Implementation) or in developing countries (Clean Development Mechanism). Use of these mechanisms is intended to be supplemental to domestic action to reduce emissions and enhance sinks.

Countries may also choose to implement the commitments as a group. The European Union has chosen to do so and has internally negotiated other national targets for the 15 countries that were Member States at the time the Kyoto Protocol was negotiated that will be the basis for the assessment of their individual compliance with the Kyoto Protocol (see Table 1).

Since the text of the Kyoto Protocol left some questions unanswered, the COP agreed on a substantive package further clarifying the conditions of the implementation of the Kyoto Protocol in Marrakech in 2001, the "Marrakech Accords" (UNFCCC 2001).

The Kyoto Protocol took eight years to enter into force, requiring ratification by 55 Parties including Annex I countries responsible for 55 % of the 1990 Annex I CO₂ emissions. As the USA (36% of 1990 CO₂ emissions) rejected the Kyoto Protocol in 2001, ratification by the Russian Federation (17% of 1990 CO₂ emissions) was critical to the fate of the Protocol.¹ In October 2004, Russia ratified, which caused the Kyoto Protocol to enter into force on 16 February 2005.

¹ Failure of both Russia and the USA (combined 53% of 1990 CO₂ emissions) to ratify would have meant that ratification by Annex I countries responsible for 55% of the 1990 CO₂ emissions could not be reached and hence that the Protocol could not enter into force. For an analysis on the voting power of countries to bring the Protocol into force see Wagner, F. and N. Höhne (2001). "Influence of national governments for or against the entry into force of the Kyoto Protocol: a Banzhaf index analysis." *Climate Policy* 1: 517-520.

Listing countries in "Annex I" was used in the Convention as a vehicle to differentiate the GHG reduction and related reporting commitments. The Annex I/non-Annex I Party distinction has spread into other policy areas and has tended to become quite rigid over time. This is somewhat contrary to the intent of UNFCCC drafters who included a number of reviews and procedural mechanisms for changing Annex I. For example, a COP review of the list of Annex I (and Annex II) Parties is mandated by Article 4.2 (f) to take place in 1998. The UNFCCC also contains a simplified amendment procedure set out in Article 16, as well an innovative, flexible route set out in Article 4.2(g) which allows a Party not included in Annex I to simply make a declaration that it intends to take on the obligations of Annex I Parties.

In practice, political sensitivities about new commitments for developing countries, and holding developed countries to account for existing ones, have meant changes to Annex I have been treated with caution by all Parties as demonstrated by Turkey's request to be removed from Annex I and II. Similarly, the inclusion of Kazakhstan in Annex I and the declaration by Argentina in 1998 that it wanted to take on a target were both seen as potential precedents putting pressure on other developing countries to join Annex I and/or to take on further commitments.

The division between Annex I and non-Annex I has been carried into the Kyoto Protocol. Proposals to create a new category of commitments or classification of some developing countries did not win support during the Kyoto negotiations as the negotiating mandate explicitly stated no new commitments would be introduced for such countries. Accordingly, Annex B of the Kyoto Protocol is an updated Annex I adding those countries that had made declarations under Article 4.2 (g), those whose geographical borders changed as well as deleting those that had not ratified the Convention at the time of adoption of the Kyoto Protocol. Decision 10/CMP.2, adopted at the 2006 Nairobi meeting of the Parties to the Kyoto Protocol (COP/MOP 2) amended Annex B of the Protocol for the first time to include Belarus. The negotiations leading to this decision signal that it is possible for countries to come forward with proposals for targets that can prove acceptable to other Parties.

Although the distinction between Annex I and non-Annex I Parties dominates many aspects of climate policy, it applies only to GHG reduction commitments. It is important to bear in mind that the Convention includes criteria for differentiation between countries without further specifying which countries that satisfy those criteria:

- Equitable and appropriate contributions by each of the Parties to the global effort (UNFCCC 4.2 (a))
- Countries particularly vulnerable to the impacts of climate change such as small island states, countries with low-lying coastal areas, countries with arid and semi-arid areas, forested areas and areas liable to forest decay, countries with areas prone to natural disasters, countries with areas liable to drought and desertification, countries with areas of high urban atmospheric pollution, countries with areas with fragile ecosystems, including mountainous ecosystems (UNFCCC 4.8)
- Countries whose economies are highly dependent on income generated from the production, processing and export, and/or on consumption of fossil fuels and associated energy-intensive products (UNFCCC 4.8, 4.10)
- Land-locked and transit countries (UNFCCC 4.8)

The group of Least Developed Countries (LDCs) has evolved special status under the Convention pursuant to Article 4.9. This group is understood to include those countries that are designated as LDCs by the United Nations General Assembly. In implementing their commitments, all Parties shall take full account of the special situation of least developed coun-

tries with regard to funding and transfer of technologies (UNFCCC 4.9). Least developed countries may choose the timing of the submission of their initial national communications at their discretion (UNFCCC 12.5). With the Marrakech Accords, an expert group on least developed countries was established to advise on the preparation and implementation strategy for national adaptation programmes for action or NAPAs (Decision 29/CP.7).

3 HISTORY OF NEGOTIATIONS ON A FUTURE AGREEMENT

The Convention states in Article 4.2(a) and (b) that Annex I Parties shall adopt and implement policies and measures to return their greenhouse gas emissions in 2000 to 1990 levels. A review of the adequacy of those paragraphs was called for to take place at the first session of the Conference of the Parties (COP 1) and a second review not later than 31 December 1998 and thereafter at regular intervals determined by the COP, until the objective of the Convention is met (see Box 2).

"The Conference of the Parties shall, at its first session, review the adequacy of subparagraphs [4.2] (a) and [4.2] (b) above. Such review shall be carried out in the light of the best available scientific information and assessment on climate change and its impacts, as well as relevant technical, social and economic information. Based on this review, the Conference of the Parties shall take appropriate action, which may include the adoption of amendments to the commitments in subparagraphs (a) and (b) above. [...] A second review of subparagraphs (a) and (b) shall take place not later than 31 December 1998, and thereafter at regular intervals determined by the Conference of the Parties, until the objective of the Convention is met;"

Box 2. Article 4.2 (d) of the UNFCCC

The first review at COP 1 (1995) concluded that Article 4.2(a) and (b) were not adequate. The COP adopted the "Berlin Mandate" which initiated a process to strengthen the commitments of Annex I Parties without introducing any new commitments for non-Annex I Parties. The negotiations of the Ad-hoc Group on the Berlin Mandate (AGBM) resulted in the Kyoto Protocol being adopted at COP 3 (1997) and its binding quantified targets for Annex I Parties. Although the subject of developing country commitments continued to be raised in the AGBM and at Kyoto itself, with a suggestion by the EU and some other Annex I countries for a "Kyoto Mandate" comparable to the Berlin Mandate, deep political divisions meant such proposals were not agreed.

The second review of adequacy, at COP 4 (1998), was overshadowed by the issue of a future mandate that would allow discussion of additional developing country commitments. No agreement was reached despite an attempt by the President of COP-4, Argentina, to establish a process on this issue. At COP 5 (1999), the Group of 77 and China proposed to amend the agenda item title from "review of the adequacy of Article 4.2(a) and (b)" to read "review of the adequacy of implementation of Article 4.2(a) and (b)". This attempt to exclude a discussion on commitments for developing countries was not accepted by Annex I Parties. No agreement was reached and the agenda item was deferred to COP 6 (2000). Due to more urgent matters relating to Kyoto's unfinished business and no movement in Parties positions, there was again no agreement at COP 6.

The text of the Kyoto Protocol, adopted at COP 3, left several details of its implementation open, e.g. how emissions from land use change and forestry would be accounted. The Marrakech Accords, adopted at COP 7 in 2001, prescribe such detailed rules for the implementation of the Kyoto Protocol. Completion of the Kyoto "rulebook" provided an opportunity to raise the issue of future climate policy but the uncertainty caused by the USA withdrawal from the Protocol in March 2001 confounded political expectations. No-one wanted to raise the

deeply divisive issue given that the only future issue of concern to everyone was much more immediate: whether the Protocol would indeed enter into force given that the USA had pronounced it “dead” and entry into force required ratification by Annex I 55 countries responsible for 55% of 1990 Annex I CO₂ emissions.

At COP 8 (2002), the second review of adequacy/implementation of Annex I Parties commitments could not be resolved and was again deferred. However, the issue of a mandate that would allow discussion/negotiations of developing countries’ commitments was raised in the context of the negotiations on a “Delhi Declaration”, which was to become the main outcome of the conference. Members of the “Umbrella Group” (a loose negotiating group that usually includes Australia, Canada, Iceland, Japan, New Zealand, Norway, the Russian Federation, Ukraine, and the United States), this time excluding the USA, stressed the need for global participation to meet the objective of the Convention. The EU called for a dialogue to kick off a process for future action and stated explicitly that such dialogue would not be about developing country commitments. Still, some developing countries interpreted this (intentionally or inadvertently) as a call for developing country commitments and rejected inclusion of any reference to future action in the declaration. The final Delhi Declaration does not refer to the future. It was welcomed and supported by the G77 and the USA, while the EU and Japan and Canada and the Central Group-Eleven (CG11, most economies in transition included in Annex I) voiced their disappointment. However, Japan and the EU mentioned in the final plenary that they have seen signs that the divide on future commitments could be overcome in the near future.

At COP 9 in Milan (2003), all countries were silent on commitments after 2012 in the official negotiations. The EU did not want to repeat the negative experience of COP 8. But on the margins and at side events, the issue of commitments post 2012 was intensively discussed. The review of Annex I Parties national communications for the period up to 2000 provided

Article 3.9: “Commitments for subsequent periods for Parties included in Annex I shall be established in amendments to Annex B to this Protocol, which shall be adopted in accordance with the provisions of Article 21, paragraph 7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall initiate the consideration of such commitments at least seven years before the end of the first commitment period referred to in paragraph 1 above.”

Article 9.1: “The Conference of the Parties serving as the meeting of the Parties to this Protocol shall periodically review this Protocol in the light of the best available scientific information and assessments on climate change and its impacts, as well as relevant technical, social and economic information. Such reviews shall be coordinated with pertinent reviews under the Convention, in particular those required by Article 4, paragraph 2(d), and Article 7, paragraph 2(a), of the Convention. Based on these reviews, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall take appropriate action.”

Article 9.2: “The first review shall take place at the second session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. Further reviews shall take place at regular intervals and in a timely manner.”

Box 3. Review of the Kyoto Protocol

Parties an opportunity to reflect on the achievements and unfinished challenge of implementation of the Convention’s aim of stabilising CO₂ at 1990 levels by 2000.

COP 10 in Buenos Aires (2004) saw a fresh attempt to start official negotiations on commitments and actions beyond those set out in the UNFCCC/Kyoto. Ratification of the Kyoto Protocol by Russia just prior to the Conference ensuring its entry into force on 15 February 2005 gave the COP a considerable political boost. In the preparations for the COP, the idea of a “seminar on future action” was born to keep the discussions on an informal level, but still under the umbrella of the UNFCCC. During the Conference a proposal to hold such a seminar was made by the chair, Ambassador Estrada. The USA rejected the idea and proposed text on a seminar on

past actions, not on the future. India, supported by Saudi Arabia, China and several other developing countries wanted to ensure that the seminar would not start a discussion process for further commitments by developing countries. Finally, text was agreed to hold a seminar on the future *and* the past, "bearing in mind that this seminar does not open any negotiations leading to new commitments" (UNFCCC 2004). The agenda item relating to a second review of adequacy of commitments remained an item held in abeyance at this COP and all subsequent COPs including the most recent held in Nairobi in 2006.

The Kyoto Protocol's entry into force served as the background to the seminar of governmental experts (SOGE) held in May 2005. Although it was a one-off event and informal in nature, the SOGE proved that sufficient political will existed amongst a wide enough range of Parties to commence consideration of the legal nature and scope of additional future actions. Parties were also mindful that the Kyoto Protocol demands review of existing commitments in two Articles (see Box 3). Article 3 requires a review of the quantified commitments inscribed in Annex B of the Protocol for Annex I Parties to be initiated in 2005. Article 9 calls for a general review of the Protocol coordinated with the review of the Convention, starting at the second meeting of the Parties to the Protocol, held in 2006.

Annex B of the Kyoto Protocol can be amended by the Conference of the Parties serving as the meeting of the Parties to the Protocol (COP/MOP) by consensus or, if all efforts at consensus have been exhausted, by a three-fourth majority (Article 20.3) but commitments for each of the Parties listed therein can only be agreed with the written consent of the Party concerned (Article 21.7).

COP 11 (2005) in Montreal was also the first Meeting of the Parties to the Protocol (COP/MOP 1). Two processes with relevance to a future agreement were agreed in Montreal. The review of commitments for the post 2012 period, inscribed in Annex B of the Protocol for Annex I Parties, was initiated. An open ended ad hoc working group (AWG) was formed. These discussions will be undertaken only by the countries that ratified the Kyoto Protocol, i.e. excluding the USA and Australia.

In addition, a two year process was launched to discuss "long-term cooperative action to address climate change". Such action can commence any time thus the process is not tied to the 2008-2012 period. The process will take the form of a dialogue be held under the UNFCCC and therefore will include the USA and Australia. The mandate speaks of sustainable development, adaptation, technology potential and market-based opportunities as topics, but does not speak explicitly of emission reductions. The mandate also states that it "will not open any negotiations leading to new commitments".

At COP/MOP 2, held concurrently with COP-12 in November 2006, the overall review of the Kyoto Protocol was considered. The issue of whether this review could be synchronized or even combined with the new targets for Annex I countries under Article 3.9 of the Kyoto Protocol or even with the periodic review of the Convention was discussed at the highest levels with an agreement to have a second review of the Protocol in 2008.

Figure 2 summarizes past and future steps in the discussion on commitments.

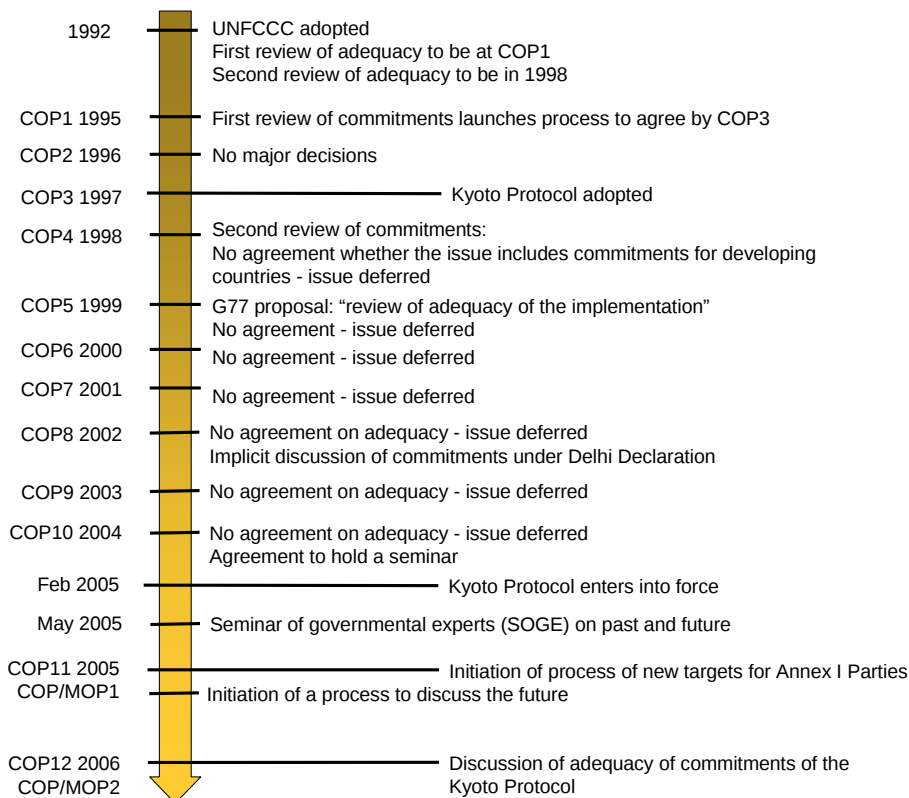


Figure 2. Overview of the negotiating history on a future agreement

4 CURRENT ACTIVITIES REVEVANT TO A FUTURE INTERNATIONAL AGREEMENT

In addition to the discussions under the UNFCCC and the Kyoto Protocol, the scope and timing of a future agreement to combat climate change is being discussed in other political fora. Figure 3 includes a few of these, which are discussed in detail below. It is expected that in the long run, deliberations in all of these strands will lead to a more effective international system to combat climate change.



Figure 3. Overview of different strands of activities relevant to future international climate policy

4.1 ACTIVITIES WITHIN THE UNFCCC

Many of the activities within the UNFCCC process are relevant for the development of the future agreement. The most important ones are discussed further below and include:

- New commitments under the Kyoto Protocol
- The Convention dialogue
- Reducing deforestation in developing countries

In addition to these, other relevant agenda items include:

- Scientific, technical and socio-economic aspects of impacts, vulnerability and adaptation to climate change: The SBSTA is considering a five year work programme on adaptation.
- Scientific, technical and socio-economic aspects of mitigation. The SBSTA agreed to have a series of sector specific workshops on options to reduce greenhouse gas emissions. Sectors include agriculture, forestry and rural development (May 2006), urban planning and development, including transportation (November 2006), energy efficiency, including industry, and residential and commercial end-use (prior to May 2007), power generation, including clean fossil fuels and renewable energy (prior to May 2007) and non-CO₂ emissions, including methane recovery and utilization (December 2007).
- Scientific and methodological aspects of the proposal by Brazil: The SBSTA is discussing countries' contributions to climate change, based on a proposal made by the delegation of Brazil prior to the adoption of the Kyoto Protocol, that Annex I countries should reduce their emissions proportional to their relative contribution to climate change. It will again consider the issue in June 2008.

4.1.1 New commitments under the Kyoto Protocol

The first Meeting of the Parties to the Protocol (COP/MOP 1) initiated the process of establishing commitments for the post 2012 period to be inscribed in Annex B of the Protocol for Annex I Parties. An open ended ad hoc working group was formed (AWG). A deadline for its completion was not fixed. These discussions are under the legal authority of Kyoto Parties with non-Parties, like the USA and Australia, having observer status.

At its first meeting in May 2006, the AWG did not adopt a deadline for decisions, but stated that it should be in time to avoid a gap between the first and second commitment periods (UNFCCC 2006). The group is now entering an analysis phase where countries are invited to present information relevant to reduction commitments including mitigation potentials. Future discussions in the AWG are likely to cover topics set out in an indicative, non-exhaustive list suggested by the Chairman of the AWG at its May 2006 session (see Box 4 and AWG Report).

At COP/MOP 2 in November 2006, the AWG focused on the development of a work plan and a schedule for further meetings. The future work programme will include a) analysis of mitigation potential and ranges of emission reduction objectives, b) analysis of possible means to achieve mitigation objectives and c) consideration of further commitments. For its future work the AWG will seek input from external bodies, such as the Intergovernmental Panel on Climate Change (IPCC). Its next session is planned for May 2007.

1. Scientific basis for determining the level of ambition of further commitments by Annex I Parties:
 - (a) Scenarios for stabilizing atmospheric concentrations of greenhouse gases, as guidance for the contribution of the Kyoto Protocol to the ultimate objective of the Convention
 - (b) Adverse impacts (risks) associated with these scenarios
 - (c) Costs of impacts and of adaptation
 - (d) Other relevant scientific, technical and socio-economic information
2. Emission trends and mitigation potential of Annex I Parties:
 - (a) Emission trends and socio-economic drivers (e.g. to 2020, 2030, 2050)
 - (b) Potential responses: policies and measures, and technologies
 - (c) Costs and benefits of emission reductions (including win-win options)
 - (d) Sectoral analyses and impacts on competitiveness
3. Experience gained and lessons learned in implementing the Kyoto Protocol:
 - (a) Review and update of methods used for emission inventories (global warming potentials, inventory guidelines, land use, land-use change and forestry)
 - (b) Effectiveness of policies and measures
 - (c) Effectiveness of flexibility mechanisms
 - (d) Demonstrable progress
4. Architecture of further commitments for Annex I Parties:
 - (a) Duration of commitment period(s)
 - (b) Review of sectors and sources of emissions
 - (c) Differentiation and burden-sharing
 - (d) Feasibility of measures to complement quantified emission limitation or reduction commitments (e.g. sectoral approaches)
 - (e) Contribution of flexibility mechanisms
 - (f) Further incentives for development, deployment and transfer of technology
5. Legal matters:
 - (a) Scope of amendments to Annex B
 - (b) Elements of the Kyoto Protocol to be amended or supplemented to give effect to amendments to Annex B
 - (c) Entry into force of amendments to Annex B
 - (d) Avoidance of a gap between commitment periods"

Box 4. AWG Chair's indicative, non-exhaustive list of topics relevant to AWG

4.1.2 Convention dialogue

A two year process was launched at COP 11 to discuss "long-term cooperative action to address climate change". This process, which will take the form of an open-ended dialogue by the COP itself, will include the USA and Australia. The mandate speaks of sustainable development, adaptation, technology potential and market-based opportunities as topics, but does not speak explicitly of emission reductions. The mandate also states that the dialogue "will not open any negotiations leading to new commitments" but the two co-facilitators of the dialogue will report to COP-12 and COP-13 (Decision 1/CP.11).

At the first meeting of the Convention dialogue, held in Bonn 15 to 17 May 2006, Parties exchanged their views openly. Countries emphasised which topics should be the focus of the discussions. The theme of positive incentives for action in developing countries was heard many times.

During the second workshop of the Convention dialogue during COP12 in November 2006 in Nairobi presentations on several topics were discussed. These included the Stern Review on the Economics of Climate Change, the World Bank Investment Framework on renewable energies, positive incentives to reduce emissions from deforestation in developing countries and integrating climate change into development strategies. Discussions were held on advancing development goals in a sustainable way and realising the full potential of market-based opportunities. The third session in May 2007 will focus on action on adaptation and realising the full potential of technology.

4.1.3 Reducing deforestation in developing countries

At the seminar for governmental experts (SOGE) in May 2005, Papua New Guinea outlined a proposal to establish a national cap for emissions from deforestation in exchange for being able to participate in emissions trading. This proposal was elaborated and submitted jointly with Costa Rica in November 2005 to COP-11. In response, the COP agreed a two year process mandating SBSTA to discuss "reducing emissions from deforestation in developing countries" and to report back to COP in December 2007, after having at least one workshop in 2006.

At the first detailed discussion in the SBSTA in May 2006, some countries only wanted to talk about scientific and technical issues such as the carbon cycle or definitions, while others wanted to discuss policy approaches and positive incentives as well. The SBSTA agreed in May 2006 that both elements should be addressed in the workshop, held in Rome in late August, 2006. Questions raised in this workshop include whether efforts should focus on funding or trading based approaches which inevitably raises links with efforts to broaden and deepen carbon markets as well as concurrent efforts to strengthen the commitments by Annex I Parties and other Parties.

Many of the discussions now focus on a Brazilian proposal for avoiding deforestation, details of which were presented at COP-12, which includes the establishment of an international fund to benefit developing countries making efforts to avoid deforestation. After discussions in SBSTA in Nairobi, a second workshop was mandated for March 2007 focusing on policy approaches and incentives to avoid deforestation and on technical and methodological issues/challenges related to such approaches/incentives. Results of the workshop will be reported to COP-13 which will review the 2 year progress on this item.

4.2 ACTIVITIES OUTSIDE THE UNFCCC

Outside the UNFCCC two other processes with relevance to a future climate agreement have been initiated: the Gleneagles G8 discussions on climate change and the Asia-Pacific Partnership (AP6).

4.2.1 Gleneagles G8 Plus 5 Process

During the G8 meeting 2005 in Gleneagles, Scotland, at which Brazil, China, India, Mexico and South Africa also participated, the Gleneagles Communiqué and Plan of Action on Climate Change, Clean Energy and Sustainable Development was released. The G8 plus 5 group emphasize the need to stop and reverse the increase of greenhouse gas emissions. It includes three areas of future work: the Ministerial dialogue, cooperation with the IEA and with the World Bank.

Ministerial dialogue

A major commitment of the G8 Summit in Gleneagles was to “take forward a Dialogue on Climate Change, Clean Energy and Sustainable Development, and to invite other interested countries with significant energy needs to join.” This Gleneagles Dialogue is an informal forum for discussion. Its objective is to complement and reinforce the formal negotiations within the UNFCCC by trying to create the conditions necessary for successful agreement.

The dialogue includes 20 countries (G8+5 together with Australia, Indonesia, Nigeria, Poland, South Korea, Spain), the European Commission and key international organisations including the World Bank and the IEA. The UNFCCC Secretariat also participates.

The G8+5 dialogue aims to address the transformation of energy systems for a secure and sustainable energy supply. The Dialogue also monitors implementation of the Gleneagles Plan of Action. As part of the implementation process, the International Energy Agency (IEA) has been requested by the G8 to develop and advise on alternative energy scenarios and strategies aimed at a clean, clever and competitive energy future.

With the Gleneagles Plan of Action the participants commit to take forward actions in transforming energy use, powering a cleaner future, promoting research and development, financing the transition to cleaner energy, managing the impact of climate change and tackling illegal logging.

From 1 to 2 November 2005 a meeting took place in the UK to take the dialogue forward and “establish detailed plans for implementation of the Plan of Action”. There the participants, represented at the ministerial level from environment and development ministries, agreed on cooperation in the following fields:

- Deployment of clean technologies. This included renewable energy technologies as well as carbon capture and storage for a long-term decrease of emissions.
- Incentives for private sector investment in low carbon technologies. This should be linked to the World Bank’s activities.
- Development of a new model for cooperation between developed and developing countries, as suggested by China, India, Brazil, South Africa and Mexico at Gleneagles.
- Reinforcement of actions on adaptation to climate change impacts.

The July G8 Summit in Russia (2006) focused largely on energy security and access to supplies. Nevertheless, the Russian Summit reaffirmed the G8's commitments to meet the objectives of reducing greenhouse gas emissions and deal with climate change, including through promoting an inclusive dialogue on further action in the future. The second ministerial dialogue meeting was hosted by Mexico in October 2006 (Defra 2005).

The German Presidency of G8 will continue work on the Gleneagles Plan in 2007. The 2008 G8 Summit, presided by Japan, will conclude the G8 process on climate change with a final report on work under the dialogue being submitted for the consideration of G8 plus 5 leaders in Japan.

IEA

The Gleneagles Communiqué describes the IEA as advisor “on alternative energy scenarios and strategies aimed at a clean, clever and competitive energy future” (G8 2005). In this context the IEA will focus on following areas:

- Alternative energy scenarios and strategies: Scenarios will show the effects of target policies and enhanced energy technologies on economy, consumption of energy and CO₂ emissions. Investment priorities will be identified, with a focus on non-IEA countries.
- Energy efficiency in buildings, appliances, transport and industry: Identification of best practice, potentials for efficiency improvements and related policies. This will also include the construction of the world's leading database on efficiency codes and standards for buildings, appliances and surface transport.
- Cleaner fossil fuels: Capacity building and provision of high-quality information for all stakeholders shall support the integration of clean coal technologies into planning processes of power plants in relevant non-IEA countries.
- Carbon capture and storage: Cooperation of IEA experts and the Carbon Sequestration Leadership Forum to incorporate CCS technology into power plants
- Renewable energy: Development and commercialisation will be supported by IEA's international collaborative R&D programmes. An expert group of IEA and non-IEA countries shall speed development of technical and policy approaches to integrate renewable electricity into the grids.
- Promoting networks for research and development: Workshops in developing countries and IEA's presence at international conferences shall distribute information on energy technology developments and on best practice.

As part of this work the IEA has recently published a major new report called Energy Technology Perspectives: Scenarios and Strategies to 2050. The IEA's key findings will be delivered at the G8 Summit in Japan in 2008 (IEA 2005).

World Bank

In the Gleneagles Communiqué the participants describe the future role of the World Bank as taking “a leadership role in creating a new framework for clean energy and development, including investment and financing” (G8 2005).

In this context the World Bank develops and identifies key elements of an associated strategic work program. Several aspects are important.

For a clean energy development, energy sector policy reform is urgently required to stimulate investments needed for developing and transition economies to meet their energy needs. Furthermore, low-cost, high impact approaches to provide clean energy should be addressed first. These include investments that are financially attractive, that internalise social costs or that are likely to become financially attractive in the mid-term.

International financial institutions can be an important source of finance, policy, and technical advice regarding the financing of investments needed for clean energy for development. Also the creation of new financing instruments could support this (World Bank 2006):

- Clean Energy Financing Vehicle (CEFV): This could provide a mechanism to transfer high efficiency technology by blending grants and carbon finance.
- Power rehabilitation financing facility: Failures of supply can cause high costs. This facility could enable developing countries to rehabilitate inefficient plants without loss of power
- Project Development Fund: "Bankable" projects seem to be needed. Such projects with participation of the public and the private sector could be addressed with this fund.
- Venture capital funds for technology adoption: These funds could finance the development, adoption and penetration in the market of promising new and clean technologies.

The G8 process has created new momentum for the international discussions on climate change. It has raised the issue to the level of heads of state and gave new directions to already existing institutions such as the IEA and the World Bank. It is seen as a process that can reintegrate the USA and at the same time have a constructive dialogue with the largest developing countries. By creating the conditions under which any future agreement could be successfully implemented, the G8 activities can complement the UNFCCC process.

4.2.2 Asia-Pacific Partnership (AP6)

The Asia-Pacific Partnership on Development and Climate, also known as AP6, is an initiative by Australia, China, India, Japan, South Korea, and USA (<http://www.asiapacificpartnership.org>). It is a non-legally binding framework that met first in January 2006.

The purposes of this partnership are to "advance clean development and climate objectives [...] The Partners will enhance cooperation to meet both [...] their] increased energy needs and associated challenges, including those related to air pollution, energy security, and greenhouse gas intensities, in accordance with national circumstances."

The six partner countries represent about half of the world's economy, population and energy use. Globally, they are important production countries of coal (65%), cement (61%), steel (48%) and aluminium (35%) (AP6 2006).

The main institution of the AP6 is the Policy and Implementation Committee, which is chaired by the USA. It is responsible for management of the implementation of the cooperative activities of the partnership and its task forces. The Administrative Support Group, provided by the USA, will coordinate the communication. Eight government-industry task forces have

been established. They focus on power generation and key industry sectors of the partner countries: cleaner fossil energy (Chair: Australia, Co-Chair: China), renewable energy and distributed generation (Korea, Australia), power generation and transmission (USA, China), steel (Japan, India), aluminium (Australia, USA), cement (Japan), coal mining (USA, India), buildings and appliances (Korea, USA). The transport sector is not covered. Until mid 2006 they will formulate action plans that outline short and medium-term action necessary to reach the partnership's aims.

The task forces will "drive improvements with regard to best practices and ensure that a range of technologies is developed and repeatedly demonstrated so that scale is increased and costs are reduced" (AP6 2006).

Funding of this partnership is voluntary. So far the USA pledged to contribute up to US\$ 50 million in 2007 (US Government 2006). The Australian Government plans to invest a further A\$100 million (~US\$ 75 million) over five years (Australian Government 2006).

The Australian government economic research agency estimates that the efforts of the Asian-Pacific Partnership could lower global emissions from 22 GtCeq to 17 GtCeq in 2050, i.e. emission reductions of -23% compared to the reference case (ABARE 2006). The WWF criticises this as being far too little because the emissions would still lead to a global temperature increase of +4 °C (WWF 2006). A target of 2°C would require global emissions to be in 2050 below 1990 levels (7 GtCeq.).

The Asia-Pacific Partnership is seen by some of its members as an alternative to the UNFCCC and Kyoto process and by others as a complement to it. Its impact alone does not seem sufficient to stabilise atmospheric concentrations of greenhouse gases or keep global average temperature increase below 2°C, which is the goal for some countries. It also has yet to prove to be effective as a new institution. So far its existence has not significantly influenced the UNFCCC process, but it could complement it well if it focuses on the development of particular technologies.

5 POSITIONS OF PARTIES RELATED TO FUTURE NEGOTIATIONS

The following section includes a summary of the positions of countries or country groups, listed alphabetically, based mainly on the recent submissions to the UNFCCC under Article 3.9 (UNFCCC 2006), the Convention dialogue (UNFCCC 2006; UNFCCC 2006; UNFCCC 2006; UNFCCC 2006; UNFCCC 2006; UNFCCC 2006) and avoided deforestation (UNFCCC 2006) as well as the discussions at the UNFCCC meetings in Bonn held 15 to 26 May 2006 updated where relevant with significant new positions announced at COP-12.

5.1 ALLIANCE OF SMALL ISLAND STATES (AOSIS)

The Alliance of Small Island States (AOSIS) is a part of the G77 and usually associates itself with the G77 position on future commitments. AOSIS is in favour of further commitments by all Parties, including developing countries, in contrast to the G77 position. At Kyoto, AOSIS championed a proposal that would have allowed any country not listed in Annex B of the Protocol to subsequently declare it wished to take on commitments. This proposal was supported by all Annex I Parties and many developing countries but became bogged down by other proposals relating to "graduation" and "evolution" of developing countries to Annex I status (UNFCCC, 2000). In the end it was not included in Kyoto due to fears by developing countries that it would be used to force them to undertake commitments.

More recently AOSIS opposed at COP 10 in Buenos Aires the call by several large developing countries that the seminar on future action should not lead to further commitments by developing countries. At the AWG in May 2006 AOSIS stressed the need of significant contributions of *all* countries. AOSIS also stated at the Convention dialogue that a global average temperature increase of 2°C above pre-industrial levels would be unacceptably high.

5.2 ARGENTINA

At COP4 in 1998, Argentina offered to be bound by a target for the first commitment period of the Kyoto Protocol once the COP implements such an option for developing countries that wish to participate in international emission trading. The target provided was a function of the Gross Domestic Product (GDP), not absolute emissions. The major reason for a target as a function of the GDP was the unavailability of a solid estimate of future economic development and therefore projected emissions in 2010. The subsequent economic decline in Argentina has shown that such predictions have to be treated with care.

After making this offer, the national government of Argentina changed and the economy went through a severe crisis. The voluntary approach by Argentina was opposed by some developing countries. The COP never implemented an option for developing countries that wish to participate in international emission trading. The offer by the Argentinean government is therefore now only of historic interest (Bouille et al. 2002).

5.3 BRAZIL

Brazil has called for more ambitious targets for Annex I countries in a second commitment period under the Kyoto Protocol and excludes new targets for developing countries. It noted that reduction efforts by developing countries are *voluntary* and cannot be linked or associated to goals, targets or timeframes (UNFCCC 2006). Therefore the discussion of new targets under the Kyoto Protocol for Annex I countries (Article 3.9) should be separate from the general review of the Protocol (Article 9).

Brazil further objects to the notion that reductions in emissions from deforestation in developing countries could be used by Annex I countries to meet their commitments, for example, through carbon trading mechanisms. However, it believes positive incentives, such as financial resources and transfer of technology, capacity building, should be provided to encourage reduced deforestation (UNFCCC 2006). Although it has not submitted official documentation, Brazil elaborated details of its proposal to reduce deforestation at the COP-12 plenary which involve payments from an international fund to developing countries based on reductions of deforestation from an historic baseline.

5.4 CHINA

In the past, China supported firmly the G77 position on Kyoto that Annex I Parties should take the lead in reducing their GHG emissions and that there should be no discussions on similar commitments for developing countries. At the conference on renewable energy in Bonn, Germany, in 2004, China took an unexpected lead by adopting a long-term target on the share of energy from renewable sources. In March 2006 it announced an ambitious domestic target to increase energy intensity by 20% in the next 5-year plan until 2010. While the official position of China is still no new commitments for developing countries (UNFCCC 2006), it seems possible that China may be willing to engage in other forms of future action on climate change, if such action is supported by developed countries through provision of technology and structured to better support the achievement of sustainable development,

energy security and the Millennium Development Goals. Along these lines, China highlighted that the role of market mechanisms for technology transfer should not be overestimated and called for stronger use of the CDM in this regard (UNFCCC 2006).

5.5 COALITION FOR RAINFOREST NATIONS

At the initiative of Papua New Guinea, a coalition of 14 countries with rainforests was formed over the course of 2005-6. It includes Bolivia, Central African Republic, Chile, Congo, Costa Rica, Democratic Republic of Congo, Dominican Republic, Fiji, Gabon, Guatemala, Nicaragua, Panama, Papua New Guinea, Solomon Islands, Vanuatu.

The coalition seeks recognition of their efforts to avoid deforestation. They propose a flexible basket of voluntary and positive incentives that could be used in parallel or in a staged fashion. The elements include Official Development Assistance (ODA), sectoral CDM with a 'target corridor', a national target with trading for the LULUCF sector, bilateral and/or multilateral trading agreements or an optional protocol within UNFCCC. Agreement on these incentives should be made by the end of 2007 (UNFCCC 2006).

This is the first time that a group of developing countries has advocated a staged approach that differentiates among developing countries in contrary to the undifferentiated position of the G77.

5.6 EUROPEAN UNION

The European Union has strongly advocated the principle that developed countries should take the lead to combat climate change. It has not advocated Kyoto style targets for developing countries, but has called for other types of approaches better suited to developing country needs and circumstances. At COP 8 in November 2002, the EU stressed the progress towards meeting its commitments and called for "a dialogue to kick off a process for future action to achieve the ultimate goal of the Convention". Although the EU stressed explicitly that it does not want to impose Kyoto reduction targets on developing countries with such a dialogue, many developing countries interpreted the EU position as such, either having misunderstood the position or interpreted it in this way deliberately.

The EU specified their view of what constitutes "dangerous" interference with the climate system. As early as 1996, the Council of Ministers of the European Union agreed that "global average temperatures should not exceed 2 degrees Celsius above pre-industrial level and that therefore concentration levels lower than 550 ppm CO₂ should guide global limitation and reduction efforts" (EU Council 1996). The target of 2°C has been reaffirmed subsequently in the EU's 2006 submissions (UNFCCC 2006; UNFCCC 2006). The EU states that meeting this target "will require global greenhouse gas emissions to peak within the next two decades, followed by substantial reductions in the order of at least 15% and perhaps by as much as 50% by 2050 compared to 1990 levels." In March 2007 the EU agreed that developed countries should collectively reduce their emissions in the order of 30% by 2020 compared with 1990 and set itself this aim provided other developed countries do likewise. Unilaterally, the EU committed itself to achieving at least a 20% reduction by 2020 compared with 1990 levels (EU, 2007).

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The EU remains in favour of a differentiated and staged approach. They stated at the UNFCCC Dialogue in May 2006 that emission reduction targets under the Kyoto Protocol are appropriate for Annex I countries and that there are other options available for non-Annex I countries. Their participation should be based on development capability and their emissions.

5.7 GROUP OF 77 AND CHINA

Non-Annex I countries with their diverse national circumstances and therefore sometimes opposite interests are represented by the "Group of 77" or "G77" which whom China usually associates itself. The Group represents the interests of all developing countries, most of which have the common difficulty of having scarce resources available for the international negotiations. Within the G77, small island states (e.g. Marshall Islands, Samoa) fear loss of their territory due to sea level rise and have formed the Alliance of Small Island States, AOSIS. Oil producing countries (e.g. Saudi Arabia, Qatar) fear loss of their income and act accordingly.

The strongly held position of the Group of 77 and China is that the historic responsibility and current capacity of Annex I Parties means they bear the main responsibility of tackling climate change. It follows no further commitments for developing countries are acceptable to the Group at least until the developed countries have demonstrated leadership in combating climate change. Furthermore, the Group has emphasized the importance of effective implementation by Annex I Parties of their existing Convention and Kyoto commitments as these demonstrate concretely whether GHG trends are actually being modified by climate policy.

This basic position cuts across many agenda items such as strong support from the Group of the Brazilian Proposal (to differentiate the commitments of Annex I Parties according to their historical responsibility for climate change). Fears that other agenda items may be used to open up political discussions on developing country commitments or to establish baselines by the backdoor has led the Group to focus on voluntary, project-based mechanisms such as the CDM.

Under the discussion of new targets under the Kyoto Protocol, the G77 called for stricter reductions by Annex I countries and urged fast agreement on reduction percentages. At COP/MOP 2 the Group maintained there be no official link between the AWG, which is to define new emission reduction commitment for Annex I countries, and the general review of the Kyoto Protocol under its Article 9, which could potentially cover discussions of new commitments for non-Annex I Parties. The Group succeeded in ensuring that the first review of the Protocol, which took place in 2006, did not open up negotiations of developing country commitments. A provision that the second review of the Protocol, to be held in 2008, shall not lead to new commitments for any party has also been included with the proviso that it shall not prejudice action by the MOP. Thus the issue of the scope, timing and content of the review of the Protocol remains to be negotiated.

5.8 INDIA

In the past India had taken a position towards equal per capita emissions, but in most recent documents and speeches this element is not included. As the host of COP 8 in November 2002, the Prime Minister of India, Mr Atal Bihari Vajpayee, stressed that the contribution of developing countries to increased GHG concentrations is low and will stay low for several decades to come. A call for developing country commitments would be "misplaced" as Indian per capita emissions are below the world average, the per capita income and greenhouse gas emissions per unit of GDP are low compared to those of Annex I countries. It was stressed that the only equitable form for the future would be one based on equal per capita emission rights.

India mentions in its submission under Article 3.9 of the Kyoto Protocol that future Annex I Parties' targets should be more ambitious and should lead to more use of the CDM (UNFCCC 2006). At the dialogue it was noted that the CDM should be simplified and pro-

grammatic activities should be eligible for CDM. Nuclear and hydropower storage should be eligible as CDM projects.

It was further mentioned that development and poverty alleviation are the major priorities of India and may lead to more greenhouse gas emissions. Any consideration of “dangerous interference with the climate system” (Article 2) should take the need for development into account. They further called for more resources for adaptation. In the AWG India mentioned that extended use of the CDM also would also contribute to adaptation through the 2% levy. At COP-12, India continued its stance that calls for developing countries to take action might damage poverty alleviation and were premature.

5.9 INDONESIA

Indonesia, as one of the countries with the highest emissions from deforestation, has called for compensation or incentives for any action to reduce emission from deforestation, not only a national target for this sector. But it has stated that the mechanisms should be kept simple and integrated in the existing and/or future climate regime (UNFCCC 2006). Its main contribution to the post 2012 debate will rest with its role as host of COP13/MOP 3 in Bali in December 2007.

5.10 JAPAN

Japan strongly supports the Kyoto Protocol and is committed to achieving its Kyoto target. However, Japan mentioned in its contributions to the ongoing dialogues that innovative ways to enhance mitigation by all major parties should be explored other than just quantified targets. They call for “more effective and imaginative ways of dealing with the problem.” (UNFCCC 2006). For example, Japan mentions that a sector-by-sector approach would be required and detailed benchmarks on sectoral energy efficiency should be set and best practices identified (UNFCCC 2006). At the dialogue Japan mentioned the need to discuss the long-term objective and goal.

5.11 KAZAKHSTAN

As a state of the former Soviet Union and an economy in transition, Kazakhstan applied to have its name added to Annex I of the Convention. One motivation for this application appeared to be access to international emission trading on the basis of a relatively modest limitation of emissions as for some EITs under Kyoto. Some developing countries opposed more “hot air” in the Kyoto system on environmental grounds and to avoid setting an unhealthy precedent. After several years of discussion during which Kazakhstan did not submit information on the nature of its proposed target, COP-7 agreed that upon its ratification Kazakhstan will be considered a “Party included in Annex I” for the purpose of the Kyoto Protocol but it will not be included in Annex I for the purpose of the UNFCCC (as this requires a formal amendment of the Convention which would only take legal effect if ratified by $\frac{3}{4}$ of the Parties to the UNFCCC). At COP 11 (2005), Kazakhstan committed itself voluntarily to keep emissions in the commitment period at 1990 levels (similar to the 0% Kyoto target of Russia). Kazakhstan has not yet put forward this target in a formal amendment and has yet to ratify Kyoto. COP-12 made progress towards this by accepting Kazakhstan's request to use 1992 as its base year for the purposes of the Convention and requesting it to submit its national communication and inventory. These submissions will help consideration of any request it might make to take on quantified commitments under Kyoto.

5.12 LEAST DEVELOPED COUNTRIES (LDCS)

There is broad consensus that these countries should not have obligations to reduce emissions and that future international action should support their efforts to adapt to climate change. Unlike AOSIS which has made submissions on a wide variety of topics relating to future commitments before and since Kyoto, to date LDCs have tended to focus on issues relating to the funding and implementation of adaptation. The main focus of LDCs in Nairobi was the implementation of adaptation funds, particularly the LDC Fund and Protocol Adaptation Fund.

5.13 MALAYSIA

Malaysia, as one of the countries with the highest emissions from deforestation, did not advocate national targets on this sector but also did not rule them out. (UNFCCC 2006). It has supported G77 positions and is not a member of the newly formed Rainforest Coalition.

5.14 OIL PRODUCING COUNTRIES

In oil producing developing countries, revenues from oil exports usually represent a very high share of their national GDP. The ten members of the Organization of Petroleum Exporting Countries (OPEC) who are Parties to the Convention have tried to slow the process of international negotiations by questioning the scientific case for mitigation and by attempting to postpone discussions of new commitments for all Parties. In particular Saudi Arabia is very active and vocal in this direction and initially supported the US rejection of the Kyoto Protocol. OPEC countries call for a consideration and possibly compensation of the adverse effects of reduced emissions on their economic development due to reduced revenues from oil exports and/or funding from Annex II Parties for economic diversification as well as removal of subsidies by Annex I Parties for domestic coal and nuclear power. OPEC countries also strongly support a comprehensive approach to the climate problem with all gases and all sectors being considered, particularly sinks. The main effort of OPEC countries in recent negotiations has been to ensure consideration of the impact of response measures across as many agenda items as possible.

5.15 RUSSIA

Russia mentions in its submission that new commitments can only be agreed after an assessment of the first commitment period, i.e., sometime after 2015. While this position is not supported by any other Party and is therefore unlikely to be agreed, it shows that Russia is not in favour of a fast decision on future action. At Montreal, Russia proposed a mechanism that would allow Parties, including non-Annex I Parties, to take voluntary commitments that was opposed strongly by developing countries, but was accepted for further consultation (UNFCCC 2006). In Nairobi, discussions on whether to include this issue as an additional agenda item and if so, how it should be handled institutionally, proved controversial given the wider discussions on the AWG and review of the Protocol. It was placed on the MOP agenda only after it was agreed that it should be moved to "other matters." Parties agreed to a workshop in May 2007 to discuss the scope and implications of the proposal after further elaboration by Russia and to reconsider this issue at MOP-3.

5.16 SOUTH AFRICA

Since its ratification of the Convention in 1997, South Africa has worked closely with the African Group and become an active member of the G77 which it chaired during 2006. Its recent submission on the UNFCCC dialogue focused on the provision of positive incentives and approaches to stimulate actions by developing countries (UNFCCC 2006). In the dialogue South Africa highlighted the option of “sustainable development policies and measures” as a promising one. Under this approach a country would first design development priorities and would then design measures to fulfil the development priorities while at the same time contribute to the mitigation of greenhouse gas emissions.

Additional options relevant to future actions under the Convention were discussed by Ministers and Heads of Delegation from 22 developing and developed countries at the Informal Ministerial Indaba on Climate Action convened by South Africa. The Indaba provided Ministers with the opportunity to consider key issues for the climate agenda for Nairobi, the next two years, and beyond (Indaba Policy Discussion Paper, 2006). South Africa played an important role as host of the Third GEF Assembly which took place in Cape Town in August 2006 and resulted in the largest replenishment of the GEF climate change programme to date. At COP-12, South Africa, on behalf of the G77/China, delivered a high level statement setting out a vision for progress on post 2012 issues which accords with the principle of common but differentiated responsibilities by requiring Annex I Parties to cap emissions first whilst focusing international cooperation on empowering developing countries to take climate protection action in line with their sustainable development objectives.

5.17 SOUTH KOREA

South Korea, like Mexico, is an OECD country but is not included in Annex I. South Korea supports “unilateral” CDM and expansion of the CDM by setting detailed criteria for programmes eligible for CDM activities and refers to the role and responsibility of Annex I Parties in technology transfer and dissemination (UNFCCC 2006).

5.18 USA

From 1994 to 2001, the USA maintained a consistent position advocating ‘meaningful participation’ of developing countries in any negotiations focusing on commitments beyond those in the UNFCCC. This has been equally vociferously rejected by the G77.

President George W. Bush announced in March 2001 that he rejects the Kyoto Protocol, calling it ‘fatally flawed’. A major argument is the apparent ‘exclusion’ of developing countries, naming specifically China and India. Another argument was the high cost for the USA to reach its target. The USA has announced an alternative national target, an 18% decrease in the greenhouse gas (GHG) intensity per unit of GDP over 10 years. Some observers point out that this target is close to the business-as-usual development of the USA (de Moor et al. 2002).

An historic change in the position of the USA towards developing country commitments first emerged at SBSTA 15 (June 2002) and became clear at COP 8 in November 2002. The USA is now no longer calling for developing country commitments but opposing the call for any UNFCCC process to discuss future commitments for any Party.

Since 2001 it has also questioned whether climate science justifies measures beyond “no-regrets” and has prioritized economic development as the main strategy for all countries to tackle climate change rejecting the idea that emission constraints in the form of targets are

necessary. The USA focus is on the development of future technologies with efforts focused on initiatives outside of the UNFCCC, such as the Asia-Pacific Partnership on Clean Development and Climate and the Hydrogen Initiative. In its submissions to the UNFCCC dialogue, the USA stressed the necessity of government-driven research, development, and demonstration (RD&D) programs. The USA also mentions that "market-based opportunities" should be discussed interpreting this broadly to include mobilizing market forces and businesses (UNFCCC 2006) rather than emissions trading, the usual interpretation of "market-based opportunities".

Many developments of interest to a post 2012 agreement took place at the congressional, state and business level. Although there is no formal change in the position of the Administration, the 2006 election results are far more favourable to the prospect of action to reduce GHG emissions, especially a national cap and trade system. Another manifestation of growing public and political support is that 2005-6 saw over 100 bills, resolutions, and amendments addressing climate change and greenhouse gas (GHG) emissions introduced in Congress (Pew Centre 2006). Concretely most attention is focused on California's Global Warming Solutions Act passed in September 2006. This caps California's greenhouse gas emissions at 1990 levels by 2020. It represents the first enforceable state-wide program in the U.S. to cap all GHG emissions by major industries. The Act authorizes development of market-based compliance mechanisms including cap-and-trade which could potentially be linked to Kyoto carbon markets. The Regional Greenhouse Gas Initiative, or RGGI, will impose caps on the CO₂ emissions of electricity generators in nine Northeastern and Mid-Atlantic states beginning in 2009 with an emissions trading program to minimize the cost of compliance (RGGI, 2007).

5.19 ENVIRONMENTAL NGOS

The environmental non governmental organizations (NGOs) bring forward a joint position as the Climate Action Network (CAN 2003). In this framework they propose three parallel tracks on future action. The Kyoto track aims for further reductions using the legally binding emission reduction commitments for Annex I Parties and additional countries. The Greening (de-carbonisation) track is for the majority of developing countries whose level of economic development does not require their involvement in the Kyoto track. Finally, the adaptation track is designed to meet the needs of key vulnerable regions (including Least Developed Countries, Small Island Developing States) to assist with anticipating and through adaptation measures limiting the unavoidable effects of climate change up to an agreed level of global mean warming.

At the AWG, CAN further elaborated its position (CAN 2006). It stated that developed countries need to reduce their emissions by at least 20% below 1990 levels by 2015 and 30-35% by 2020. It also stressed that all countries need to make significant contributions and called for a fair process to determine the selection of countries for different tracks. Some advanced developing countries would take on absolute emission reduction targets sooner than others, who would benefit from the broadening of market mechanisms, including sectoral approaches and sustainable development policies and measures with crediting. With these mechanisms, participating countries would be rewarded with emission reduction credits for reducing emission below a certain level. The ambitious targets of Annex I countries would create a demand for these credits.

5.20 BUSINESS NGOS

The business world is increasingly differentiated between those who stand to gain from the shift to a low carbon world and those who believe that tackling climate change will damage their core business. In general climate change is climbing higher up the business agenda as reflected by the high profile given climate change at the 2005 and 2006 World Economic Forum. The World Economic Forum, in partnership with the World Business Council for Sustainable Development (WBCSD), has been invited to participate in the Gleneagles Dialogue on Climate Change, Clean Energy and Sustainable Development (WEF, 2006).

Regulatory uncertainty, lack of an even playing field and the speed and scale of future reductions are now major business concerns. In their statement at the AWG, business leaders called for a long term framework with global participation to mitigate competitiveness concerns (ICC 2006). They express some reservation to the existing system of absolute reduction targets for some but not all countries and propose a system based on the encouragement of technology development and use as well as encouragements of voluntary reduction efforts. They support exploration and, where appropriate, further development of global market-based approaches, such as CDM and JI, as they have the potential to reduce emissions at lower cost.

6 SAO PAULO PROPOSALS AND BASIC COUNTRY POSITIONS

From the foregoing section it is clear that since the run up to Kyoto developing countries have not set out a holistic view of the design of a future regime. Their positions before and after Kyoto do, however, point to the inclusion of certain elements and mechanisms (and the exclusion of others) in a future agreement. This section sets out how the past positions of BASIC countries (Brazil, South Africa, India and China) inform discussions of the core elements set out in accompanying Sao Paulo Proposal for an Agreement on Future International Climate Agreement.

Core Element 1: Article 2 UNFCCC Medium and Long Term Goals

The BASIC countries have not put forward a long term goal such the target of 2°C agreed by the EU. However, the G77 and China as a whole have expressed strong interest in the Brazilian Proposal submitted to the AGBM in May 1997 which set differentiated emission reduction targets for Parties according to the impact of their historic emissions on temperature rise and implies setting a temperature ceiling (FCCC/AGBM/1997/MISC.1/Add.3). The focus on a temperature limit(s) to better define burden-sharing and timeframes for action for the entire regime thus provides a common reference point for BASIC countries and the EU.

In recent submissions to the Convention dialogue, China, India and South Africa have proposed that long term cooperative actions should be framed in terms of their contribution to sustainable development goals and the Millennium Development Goals (MDGs) rather than solely in terms of GHG emission reductions as Article 2 itself refers to sustainable development components. Accordingly, the Sao Paulo proposal suggests that Parties should agree a basket of goals comprising a temperature limit, GHG concentration limit and a range of MDG/sustainable development related goals. Collectively such goals could provide a set of measurable metrics against which the overall direction and achievements of the regime can be gauged by a wide range of actors.

Core Elements 2-4: Commitments of Annex I/Annex B Parties

Along with the G77, the BASIC countries agree that the principle of common but differentiated responsibilities and capabilities requires deep reductions of emissions by Annex I Parties for longer time frames than currently established by Kyoto. The BASIC countries have sought to avoid being over prescriptive of *how* Annex I Parties should achieve such reductions. Since 1994, with G77 they have insisted, however, on legally binding commitments and compliance mechanisms as only these provide the necessary degree of legal accountability. BASIC countries have also agreed that current emissions levels of Annex I Parties do not generate entitlements or rights to such levels for the future. Only India has suggested a criterion for *future* allocations (per capita) with the other BASIC countries agreeing that developing countries emissions must grow from their current historically lower levels.

The Sao Paulo proposal for Annex I Parties is framed to avoid Parties having to agree on the divisive, potentially intractable issue of allocation criteria for future burden sharing in respect of GHG reduction commitments. The elements relating to Annex I Party commitments provide Annex I Parties a choice of quantified targets accommodating a high degree of differentiation among Annex I without being prescriptive as to means. Financial payments by Annex I Parties in lieu of part of such commitments would be used to finance technological development (similar in spirit to the Brazilian proposal for a Clean Development Fund that was supported by whole of G77 and China in the run up to Kyoto and more recently in various fora).

The automatic extension provisions provide a long term, stable framework that would appeal to all Kyoto Parties and non-Parties. Combined with Element 6 (limits on transfers by developing countries of CERs discussed below) these proposals would instigate a shift to low carbon development led by Annex I Parties.

Core Element 5: Non-Annex I Parties' Quantified Sustainable Development Commitments

BASIC countries have consistently resisted Kyoto style national caps. Importantly, although proposals abound in the policy literature, BASIC countries have also not endorsed burden-sharing approaches based on over-allocation of emissions rights as a financial inducement for developing countries to agree targets.

BASIC countries have sought instead to contribute to GHG reduction efforts through voluntary mechanisms that allow learning by doing and also catalyze the provision of additional financial and technological assistance from Annex I Parties. The prime example of this approach, the CDM, was put forward by Brazil. In recent years there has been more interest in BASIC and other developing countries for approaches that allow structural and programmatic approaches to GHG reductions such as sustainable development policies and measures (SD-PAMs) and programmatic CDM.

The Sao Paulo proposal focuses on how these types of commitment can complement the CDM without overwhelming carbon markets with excess credits. Non-Annex I Parties can continue to host Clean Development Mechanism projects including programmatic projects. They also may commit to quantify and report the emission reductions achieved by sustainable development policies, including policies to reduce deforestation. A Party cannot earn tradable credits for reductions achieved by sustainable development policies, but does benefit from other incentives. Finally, a non-Annex I Party can adopt a sectoral or national "no lose" commitment for which it can voluntary emission reduction units (VERs) which are equivalent to CERs.

Core Elements 6 - 7: CDM & Limits on Transfers of CERs and VERs by non-Annex I Parties

Continuation of the CDM in the Sao Paulo proposal is based on BASIC countries strong support for the CDM as set out in current submissions. The limits on transfers of CERs and VERs for individual non-Annex I Parties are a novel feature of the Sao Paulo proposal. The Sao Paulo proposal does not set commitments for a specific period; rather commitments are made progressively more stringent over time. As part of such a structure, non-Annex I Parties should adopt commitments when appropriate. The limit on cumulative transfers of CERs and VERs is the mechanism that determines when it is appropriate for a non-Annex I party to adopt a quantitative emissions limit.

A unique limit is set for each non-Annex I Party based on its population and an index that reflects the principles, agreed in the Convention, of responsibility (emissions per capita since 1990), capability (current GDP per capita) and mitigation potential (current emissions per capita). The limits are revised at five year intervals to reflect the changing circumstances of individual countries.

A non-Annex I Party can influence when it reaches its limit. Domestic policies that reduce the growth of per capita emissions provide a higher limit. Restrictions on transfer of CERs can also delay when the limit is reached. But growth of per capita emissions and percapita GDP can reduce the limit even if there are no transfers of CERs or VERs.

Once the cumulative transfers of CERs and VERs by a non-Annex I Party since 2005 reach its limit, the country is expected to adopt a quantified emissions limitation commitment. This occurs only when such a commitment is appropriate for the country given the indicators for responsibility, capability and mitigation potential and after the country has benefited from participation in the carbon market.

The limit on transfers of CERs ensures that Annex I Parties undertake significant commitments before non-Annex I Parties do so. Weaker Annex I commitments mean smaller purchases of CERs, which delays the date any non-Annex I Party will reach its transfer limit. It allows Non-Annex I Parties to benefit from participation in carbon market and other features of the Protocol before adopting commitments. It provides an additional incentive for non-Annex I Parties to adopt sustainable development policies that reduce per capita emissions because this increases a country's limit. And it leads to an equitable distribution of CDM benefits in the long run because the poorest non-Annex I Parties will be the last to reach their limits.

The limit on the transfer of CERs and VERs also gives practical expression to the fundamental position of the G77 that domestic action should form the principal basis for achievement of Annex I Parties' targets. This was one reason why G77 and BASIC countries at Kyoto agreed that the CDM should only be used to meet "a part "of Annex I Parties' commitments. G77 position on the need to prioritize at least a degree of domestic effort was strongly shared by the EU who had wanted to impose quantitative limits on the use of all Kyoto mechanisms by Annex I Parties. Subsequently, the EU has imposed limits on the types of credits that can enter the EU Emissions Trading Scheme. The motivation for such limits is to ensure a degree of domestic action within Annex I Parties and to safeguard the environmental integrity of Kyoto.

Core Elements 8 - 9: Joint Implementation, Emissions Trading

Historically, BASIC countries have sought to ensure that there is a fair playing field between JI/ET and the CDM and the latter is not penalized as it is the mechanism with the most direct

link to developing countries sustainable development. Throughout the negotiations of the Marrakesh Accords, BASIC countries with G77 supported the extension of the CDM levy (2% of the share of the proceeds) to JI and to ET. That provision is part of the Sao Paulo proposal concerning the next phase of these mechanisms.

Core Element 10: Compliance

The main thrust of G77 and BASIC countries position on JI and ET has been to secure inclusion of reporting modalities and compliance mechanisms and procedures that can hold Annex I Parties to account for their legally binding commitments. Overseen by the Compliance Committee, these procedures are also critical to ensure that JI/ET support the achievement of Annex I Parties targets without undermining the Protocol's environmental integrity – through inadvertent overselling, double counting or otherwise. The Sao Paulo proposal incorporates the existing compliance procedure and mechanisms into the new agreement. Additional modalities relating to the automatic extension of commitments and how the Compliance Committee could assess the basis of a request for compliance exemption in the case of economic hardship would be elaborated.

Core Element 11: Enhanced Implementation of Adaptation

In absolute terms, the BASIC countries have high numbers of vulnerable people, long, densely populated long coast lines at risk of sea level rise and a disproportionate number of unique or fragile ecosystems threatened by climate change. India has played a leading role in highlighting vulnerability and adaptation issues most notably at COP-8. Adaptation issues have, however, been most strongly followed in the negotiating process by AOSIS and by the recently formed LDC group. The Sao Paulo proposal focuses on integrating adaptation issues with sustainable development and disaster risk reduction activities rather than just focusing on generating ring-fenced funding for discrete project activities of the kind currently emphasized by other groups.

Core Elements 12- 13: Technology Transfer, Technology Research and Development

BASIC countries have consistently led the G77 to emphasize the importance of technology research, development and modalities for technology transfer. The Sao Paulo proposal seeks to advance proposals put forward by BASIC countries in many different forms to advance collaborative forms of research, development and deployment, in particular by drawing on the idea of a Technology Fund financed by Annex I Parties put forward by Brazil in 1997 and the suggestions put forward by China and India at the Convention Dialogue as well as the options elaborated in the Policy Discussion Paper prepared by South Africa for the Ministerial Indaba in June 2006.

Core Element 14: Memoranda of Understanding and Trade Restrictions

The elements setting out provisions that could apply to non-Kyoto Parties that refuse to agree a memorandum of understanding are new but are based on Article 3.5 of the Convention which contemplates unilateral or collective measures that could have trade restrictive effects. The trade restriction provisions set out in the Sao Paulo proposal are modelled on

provisions contained in the 1987 Montreal Protocol (as amended) which BASIC countries are parties of and which are widely agreed to be consistent with international trade law.

7 CONCLUSIONS

In 2005-6 new momentum has come into the negotiation process. After the entry into force of the Kyoto Protocol, climate change received high level political attention in several parallel initiatives (UNFCCC, G8, AP6). With the start of two processes under the UNFCCC and the Kyoto Protocol, the G8 follow up processes and the AP6, the international negotiations are entering a new era. Some argue that the large number of processes outside of the UNFCCC could threaten the authority of the UNFCCC as *the* international forum on climate change. But it seems that these processes have positively influenced the UNFCCC negotiations and have provided new input to them. And in the end, all processes influence each other and an agreement in one will most certainly play an important role in other processes.

Looking at the positions of countries reveals many gaps and areas of disagreement before a new universal agreement can be agreed. Countries will have positions that go further than they officially announce, but it is unlikely that all have solid positions on all topics necessary to form a full regime.

The issue of ambition level receives attention but only a few countries have spoken to it. The EU and other countries are in favour of a 2°C target, AOSIS calls it unacceptably high, but many countries are silent on the issue of a long term goal. Translating any goal into global mid-term emission levels is only done by the EU, calling for a 15% to 50% reduction of global emissions in 2050 below 1990 levels. Numbers for necessary reductions by 2020 by Annex I countries are only provided by the EU (30%) and the environmental NGOs (30% to 35%).

All countries seem to agree that some developing countries should be given "positive incentives" to participate, but no country has specified exact details on how such positive incentives should be designed. No country has mentioned a list of countries or a way to determine which countries participate at which levels.

All countries agree that adaptation will be a major element in a future climate treaty, but no Party has made concrete proposals how it should be done. Here also the scientific policy related literature has far fewer insights and proposals compared to the topic of mitigation.

In conclusion, it seems that the large number of discussion processes can lead to a more enhanced consideration of the issue of climate change on the international level. But the urgency of action that is suggested by climate science has yet to lead to accelerated political negotiations to ensure these result in agreement on timescales needed to ensure there is no gap between the first and second commitment period. A great deal of analytical work on how various proposals can fit together and their economic, environmental and equity consequences remains to be done. Although progress now seems possible under the various processes, it remains to be seen whether agreement can be reached in a timeframe to avoid dangerous interference with the climate system.

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